

**V(A). Planned Program (Summary)**

**Program # 10**

**1. Name of the Planned Program**

Food Safety

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	40%		8%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	60%		92%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	17.6	0.0	4.9	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
479633	0	187931	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1267501	0	752583	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
391707	0	278058	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

**COOKING FOR CROWDS:** Workshops of 3 to 4 hours are offered using power point visuals, handouts, hands-on demonstration and videos. Dependent on the recipients needs, participants receive the CFC manual, posters, and thermometers. **FOOD PRESERVATION:** Extension educators are committed to providing consumers with up-to-date research-based information on home food preservation. Many delivery methods were used to disseminate food preservation information and included hands-on and lecture/demonstrations. Considerable time was spent answering individual questions mostly by phone but also through face-to-face contacts, email, and written letter. Exhibits at Farmer's Markets, health fairs, and county fairs allowed consumers to ask questions and receive up-to-date printed information. Testing of pressure canner dial gauges also provided opportunity to answer questions as well as help insure that consumers were canning low-acid foods safely. A variety of multiple media methods were used. Consumers were encouraged to use reliable internet sources such as Penn State Home Food Preservation and the National Center for Home Food Preservation sites. USDA and other University Extension publications/curriculum were used. **SERVSAFE®:** The program is delivered in a face-to-face format. A minimum of 7.5 hours of classroom instruction (for recertification) and instruction and/or home study activities to total 15 hours (for initial certification) of instruction is provided. The exam is optional for recertification and mandatory for initial certification. **TAP ONLINE TRAINING:** Since this is a self-paced learning program, the educators serve as a resource to individuals registered for the program. The educator enrolls the student in the program for either initial certification or recertification through the TAP website. Educators determine the testing schedule for their participants who are certifying for the first time. Educators administering the exam must be a Certified ServSafe® Instructor and Registered ServSafe® Proctor. **FARM FOOD SAFETY PROGRAM:** Good Agricultural Practices (GAPs) are ways that produce growers can prevent on-farm contamination of fruits and vegetables. County meetings, farm workshops, twilight mock audit presentation, conference and educational information on a website were used to reach growers. Applied research, funded by USDA NE SARE and the USDA Specialty Crops Block grant program is underway. The Department of Food Science is studying the microbial quality of irrigation water used on fresh produce crops. The Departments of Food Science and Agricultural and Extension Education have joint projects to assess local and international perceptions toward GAP implementation among growers and retailers. **GOOD PRODUCTION PRACTICES:** Addresses quality management for youth animal sciences as it relates to developing a hazard analysis critical control points (HACCP) of producing an animal product for sale to consumers in the United States.

**2. Brief description of the target audience**

**COOKING FOR CROWDS:** Nonprofit Associations/Organizations, Community Groups, General Public, Human Service Providers. **FOOD PRESERVATION:** General Public, Community Groups, Students/Youth, Ag Producers/Farmers/Landowners, Nonprofit Associations/Organizations and Educators. **SERVSAFE®:** Nonprofit Associations/Organizations, Business and Industry - Owners and operators of food establishments and educators. **FOOD SAFETY PROGRAM:** produce growers. **GOOD PRODUCTION PRACTICES:** Animal Producers. **YOUTH QUALITY ASSURANCE PROGRAMS:** Youth.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Plan</b>	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}
<b>Actual</b>	6348	3110720	41	0

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2010  
 Plan:  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
Actual	0	0	37

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of invention disclosures

Year	Target	Actual
2010	{No Data Entered}	0

**Output #2**

**Output Measure**

- Number of people enrolled and/or registered in programs

Year	Target	Actual
2010	{No Data Entered}	8140

**Output #3**

**Output Measure**

- Number of research projects completed

Year	Target	Actual
2010	{No Data Entered}	4

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of participants who were evaluated and demonstrated increased knowledge and skills
2	Number of participants who were evaluated in a follow up and who implement/adopt practices
3	Number of volunteers that helped with program leadership or program delivery

## **Outcome #1**

### **1. Outcome Measures**

Number of participants who were evaluated and demonstrated increased knowledge and skills

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	{No Data Entered}	2595

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

In 1999, Pennsylvania passed the Food Employee Certification Act, which requires one supervisory employee from for-profit facilities that carry a Pennsylvania Department of Agriculture license to attend an approved food safety course and pass an approved exam. Best management practices employed with food animal production are extremely critical to assure that the food supply is safe. The public is very aware of the need for food safety practices during the production and preparation of food.

#### **What has been done**

SERVSAFE®: 155 ServSafe® classes were taught by 24 ServSafe® instructors reaching 2,135 students. 1,657 individuals enrolled in the class for initial certification. 1,385 ServSafe® participants passed the certification exam. 478 individuals enrolled in the class for recertification. By offering food safety training, Extension has helped 2,237 individuals maintain their establishment's license. COOKING FOR CROWDS: 56 Cooking for Crowds presentations for 1,111 individuals from 152 organizations were given. GOOD PRODUCTION PRACTICES: Sixteen county educators/specialists delivered 109 presentations in 20 different counties.

#### **Results**

SERVSAFE®: 83.4% (1,147 of 1,361) plan to implement one or more food safety practices such as using sanitizer test strips (58.5%); log cooking, holding and cooling temperatures (56.3%); checking food temperatures with a food thermometer (54.6%); cooling foods quickly (53.1%). COOKING FOR CROWDS PROGRAM: 63% (508 of 813) plan to implement and/or increase 4 or more practices such as checking food temperatures with a calibrated thermometer; cooking foods to the proper temperature; washing hands for 20 seconds; limiting the time food spends in the danger zone; cooling foods quickly; separating raw from ready-to-eat foods. FOOD PRESERVATION: 27 classes with 450 participants (90%) reported new knowledge. 271 pressure

canner dial gauges tested in which half needed adjustment or replacement. FARM FOOD SAFETY: Confidence in conducting a self-inspection increased from 0% to 73%.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

#### Outcome #2

##### 1. Outcome Measures

Number of participants who were evaluated in a follow up and who implement/adopt practices

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	176

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Follow-up evaluations help the Food Safety team know whether the educational information they have presented is being used by the institution that is preparing the food. It assures the educators that the training and educational information is being retained and understood.

###### **What has been done**

Delivery mechanisms delineated in previous section.

###### **Results**

SERVSAFE®: 79 students completed follow-up evaluations. They serve over 12,700 people each day and trained over 375 individuals in food safety. 3 to 6 months after: 69.6% (55 of 79) implemented one or more practices such as checked food with a thermometer (67.3%); limited the time food spends in the danger zone (65.8%); cooled foods quickly (63.3%); used sanitizer test strips (59.5%); used gloves for ready-to-eat foods (58.2%). COOKING FOR CROWDS: Within 3 to 6 months, 76% (55 of 66) increased the frequency of one practice such as checking

food with a calibrated thermometer; cooked foods to the proper temperature; limited food in the danger zone; cooled foods quickly; separated raw from ready-to-eat foods, and used sanitizer test strips. FOOD PRESERVATION: Replaced old directions, (76%), Had canner dial gauge tested (31%).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

#### Outcome #3

##### 1. Outcome Measures

Number of volunteers that helped with program leadership or program delivery

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	129

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

The volunteers are important because they have access to locations and people that extension staff does not. They extend extension's reach. They also lend credibility to extension's training. Having another person recommend and endorse our program has greater impact than marketing it ourselves.

###### **What has been done**

SERVSAFE®: Health inspectors from county health departments and the Pennsylvania Department of Agriculture help to market the program and act as guest speakers. Others help to identify training sites and assist in setting up the site. PA Board of Probation and Parole staff has helped enroll and monitor the students. COOKING FOR CROWDS: Volunteers help with site identification, marketing, and help on the day of the training. Some volunteers serve as sponsors to offset the cost of Cooking for Crowds manuals, supplies, and instructor travel.

### Results

As a result of volunteer involvement, there is increased enrollment in the training, increased access to training sites, and the opportunity to include the perspective of the regulators in our class. This last item also helps to improve the relationship between the food service operation and the regulators by allowing them to interact in a neutral setting. Ultimately, we reach more individuals, organizations, and communities who need our educational program.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

### V(H). Planned Program (External Factors)

#### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Populations changes (immigration, new cultural groupings, etc.)

#### Brief Explanation

Pennsylvania law now prevents the state from taking action against groups that sell commonly prepared baked goods to raise funds for non-profit organizations. The attention drawn to this change in legislation caused an increased demand for non-profit food safety education. Cooking for Crowds offers community groups the opportunity to learn safe procedures for preparing food sold for fundraising. In addition to the impact of legislation passing into state law there has also been an increased demand for food safety education because of difficult economic conditions in the state. Many food banks and pantries have experienced decreases in sources of revenue and increased food costs. This has resulted in decreased budgets for food safety training. The Cooking for Crowds program offers food banks researched based food safety education relevant to the needs of their volunteers at a reasonable cost. Food Preservation: Home gardening and purchasing from farmer's markets have increased. Possible reasons include the slow economy, buy fresh buy local interests, and consumer desire to grow their own for health, economy, and to control what is in their food. Extreme weather conditions, such as drought, plant diseases, and insect infestations, also affected food quality and availability for preserving. GAP's Program: U.S. Congressional and state regulatory actions. Wholesale buyer requirements to mandate verification of farm food safety practices as a condition of purchase. Interest in supporting Penn State farm food safety remains strong within the Pennsylvania Department of Agriculture although there are uncertainties with upcoming budget shortfalls and a change in administration. There are no indications that wholesale buyers will not continue to phase in GAP documentation and perhaps third party audit requirements for all growers, regardless of size. These requirements may well be more stringent than government regulations.

## **V(I). Planned Program (Evaluation Studies and Data Collection)**

### **1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

### **Evaluation Results**

Food safety is a high priority issue in Pennsylvania and Penn State Extension is a key player in conducting educational programs to audiences who serve the public on a regular basis. Evaluation results indicate that the practices of checking food temperatures with a calibrated thermometer; limiting the time food spends in the temperature danger zone; cooling foods quickly; using sanitizer test strips to measure the strength of the sanitizer; using gloves to handle ready-to-eat foods; and washing hands for 20 seconds are key points that the participants practice in their work when preparing and serving food. These practices are important for prevention of food-borne illness and outbreaks. Testing pressure canner gauges and processing food at the correct temperature are also critical practices when preserving food. Commercial growers of small fruits and vegetables in Pennsylvania are using research-based information to improve their farm food safety practices and evaluation results indicate that there was a great increase in knowledge. Good Agricultural Practices: Youth increased their ability to make ethical decisions about 4-H animal science projects as a result of participation in Quality Assurance Management in Youth Animal Science programming. Youth can identify quality indicators in animal husbandry techniques as a result of participation in experiential learning regarding quality assurance and ethics.

### **Key Items of Evaluation**

ServSafe® participants reported that they serve 183,580 customers per day. These customers will be impacted by the food safety training provided. The mass media plays a huge role in educating the public about food safety. For example, when teaching about food preservation, over 2,880,000 Pennsylvania households received educational information through the mass media. For the Good Agriculture Practices program, of those completing evaluations, they indicated they managed a total of over 16,000 head of livestock. Extrapolated for all participants, nearly 115,000 head of livestock were represented at these programs. Quality assurance programs are designed for certification in best management practices employed with food animal production. There were 270 producers certified among the 44 training opportunities for beef, sheep, goats, and pork.